

**The Citrus Industry**  
EXCLUSIVE SPECIALIZED CITRUS  
PUBLICATION  
Issued Monthly      Representative of every interest  
Representing no special interest

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# Horticultural Society To Consider War Time Problems      At West Palm Beach April 21, 22, 23 . . .

The fifty-fifth annual meeting of the Florida State Horticultural Society and the meetings of affiliated societies are to be held in West Palm Beach, opening at 9:30 A. M. on Tuesday, April 21st, and continuing through the afternoon of Thursday, April 23rd. The headquarters and meeting place is the George Washington Hotel.

The theme of the program is to be the production and marketing of Florida citrus fruits and vegetables under war conditions. With the shortage of labor and materials incident to war, the grower will have new problems to face from day to day. These problems in so far as they can be anticipated are to be thoroughly discussed by competent speakers and it is expected that information that will be invaluable to the grower will be developed. The grower who would save himself worries and be prepared for emergencies, will do well to attend.

The following programs are tentative and subject to change. See daily papers for further announcements.

#### PROGRAM

**Soil Science Society of Florida**  
Tuesday, April 21st, 9:30 A. M.  
and 2 P. M.

The first of the group of meetings in connection with the Horti-

By COL. BAYARD F. FLOYD

cultural Society is the sessions of the 4th annual meeting of the Soil Science Society of Florida. Its meetings open at 9:30 A. M. on **Tuesday, April 21st** and continue through the afternoon of that day.

An extensive program in reference to soil and water conservation is being prepared that will be of particular interest to both fruit and vegetable growers in the Everglades and similar areas. There are many phases of the subject and they will each be handled by speakers who can speak with authority. The program is as follows:

**TENTATIVE PROGRAM FOR  
A PUBLIC DISCUSSION**  
of the Broad Conservation and Reclamation Problems of the Everglades Area and the Principal Elements of a Longtime Plan of Development.

West Palm Beach, April 21,  
1942, 10:00 A. M.

Sponsored by The Soil Science Society of Florida — J. R. Neller, President

1. Introduction to the Physical Phase — J. R. Neller, Chairman.

2. The Principal Characteristics of the Kissimmee-Everglades Watershed from the Hydrological Standpoint — C. C. Schrontz, and J. C.

Stephens.

3. The History of the Everglades Drainage and its Present Status — Fred C. Elliot.

4. The Soils of the Everglades in Relation to Reclamation and Conservation Operations — C. B. Evans and R. V. Allison.

5. The Plan and Progress of the Recent Study Program.

(a) The Geology of the Everglades Region, Mr. Parker.

(b) Surface Water Studies, G. E. Ferguson.

(c) Soil and Water Conservation Relationships, C. May Davis.

#### LUNCHEON

6. The Principal Elements of a Longtime Soil and Water Conservation Plan for the Everglades Area — H. A. Bestor.

7. Discussion.

8. Introduction to the Financial Phase — J. Mark Wilcox, Chairman.

9. The Present Status of the Plans for Refinancing the Everglades — Lewis Hall.

10. The Relationship of the Physical Plan to Taxation and Other Fiscal Considerations Pertaining to the Everglades — W. Turner Wallis.

11. General Discussion.

**PROGRAM  
FLORIDA STATE  
HORTICULTURAL SOCIETY**  
Tuesday, April 21st, 1942, 8:00 P.M.

This is the opening session of the Society proper. The speaker of the evening is to be the Hon. Spessard L. Holland, Governor of Florida. In case an emergency prevents him being (Continued on page 9)

# Relation of Size of Fruit to Solids, Acid and Volume of Juice

## In The Principal Varieties of Florida Oranges

Most of the information accumulated during the investigation on the seasonal changes of Florida oranges (*Citrus sinensis* Osbeck) during development and ripening on the tree has been published. However, since little if any concrete data have appeared in print on the relation of the size of the fruit to solids, acid, and volume of juice, results obtained in the above-mentioned studies are now being made available.

These results show how the size of the fruit affects total soluble solids, total acidity, and the volume of juice at different times prior to and throughout the harvesting period for the principal varieties of Florida oranges.

The findings are based on a systematic study during three seasons from 1925 to 1937, involving the analyses of more than 13,000 individual fruits, but in this paper only the results for some of the principal varieties of oranges are presented. It is expected that the complete report will be published by the Department later.

### Materials and Methods

The history of the different varieties, the rootstocks on which they

BY PAUL L. HARDING  
Associate Horticulturist, Division of Fruit and Vegetable Crops and Diseases, Bureau of Plant Industry, and W. E. LEWIS, Agricultural Marketing Service, United States Department of Agriculture at Meeting of Florida State Horticultural Society, April 17, 1941

were grown, cultural and growing conditions, and other pertinent information have been discussed in United States Department of Agriculture Technical Bulletin 753.

Oranges for the tests were taken at random, care being exercised to pick only exposed fruit of the regular bloom.

Samples were usually collected at intervals of two weeks until the commercial picking of the plots. After this time only a few trees were reserved to supply fruit for later analyses, which were made at somewhat longer intervals depending on the amount of fruit reserved.

Each variety was sampled over a

period of several months, so that fruits of various stages of development and ripening were included. Tests on early and midseason oranges commenced about September 1, and tests on Valencia oranges were started about December 1. The time covered by each year's experiment was from six to eight months.

These findings on the very immature fruit are not included, since this information would be of little importance to the industry.

The results reported herein are average values obtained from individual fruit measurements and individual fruit analyses. To facilitate graphic presentation, the data were grouped within the following arbitrary periods for early and midseason oranges: First, between September 1 and October 13; second, between October 14 and November 24; third, between November 25 and January 5; and fourth, between January 6 and February 16. For late or Valencia oranges: First, between January 4 and February 28; second, between March 1 and April 25; and third, between April 26 and June 20. An adequate population was obtained by having a large number of

Figure 1

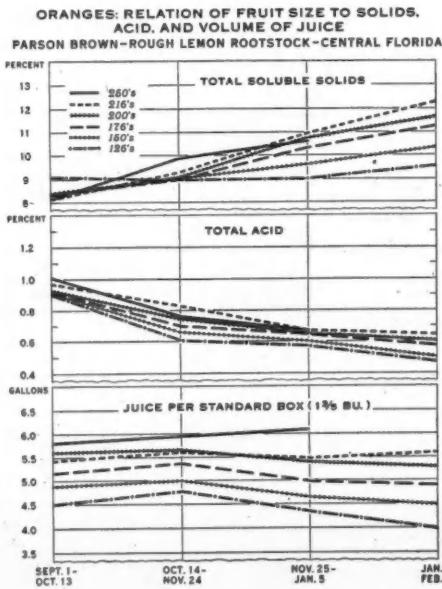


Figure 2

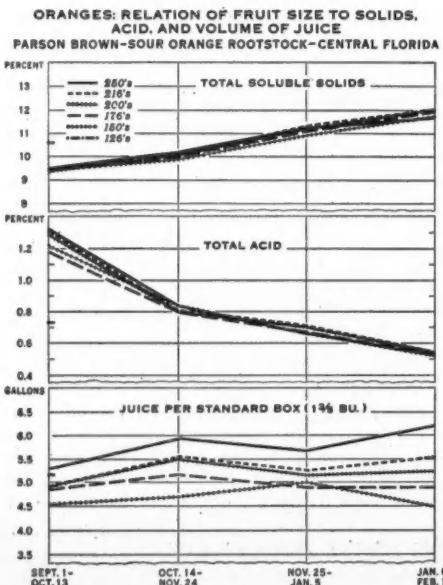
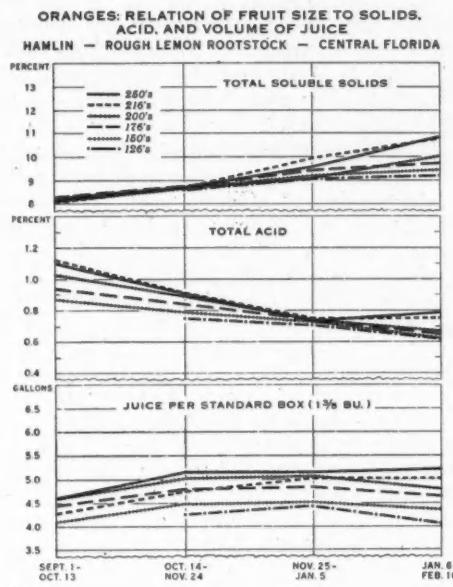


Figure 3



fruits in each sample, by frequent sampling, and by replication of the investigation for three seasons. The consistency of these data as shown in figures 1 to 7 indicates their reliability.

The size of the fruit was determined by measurement of the diameter of the cut halves. Juice was extracted by a pressure extractor, and the volume of juice was ascertained after the removal of pulp and seeds. Total water-soluble solids were determined by an Abbe (Bausch & Lomb) refractometer, and total acid by titration of the juice with standard NaOH, using phenolphthalein as

an indicator.

#### Total Soluble Solids

An increase in percentage of total solids is indicated with the development and ripening of the fruit. During the period from September 1 to October 13, early and midseason oranges showed comparatively slight differences among smaller and larger sized fruits, i. e., between sizes 250's, 216's, 200's, 176's, 150's, 126's, and 96's. After this period the divergence usually became greater and the fruits of the smaller sizes were consistently higher in solids than the larger ones. In Valencia oranges these differences were found

throughout the sampling period, the smaller sized fruit containing the greater amount of solids.

Rootstocks on which Parson Brown and Valencia oranges were grown influenced the content of total solids. It will be noted that more solids resulted when the fruits were from trees grown on sour orange, while less solids resulted when they were grown on rough lemon rootstock. For comparisons, see figures 1 and 2, and figures 7 and 8.

It will be observed that Parson Brown, seedlings, and Valencia oranges contained a greater amount of

(Continued on page 14)

Figure 5

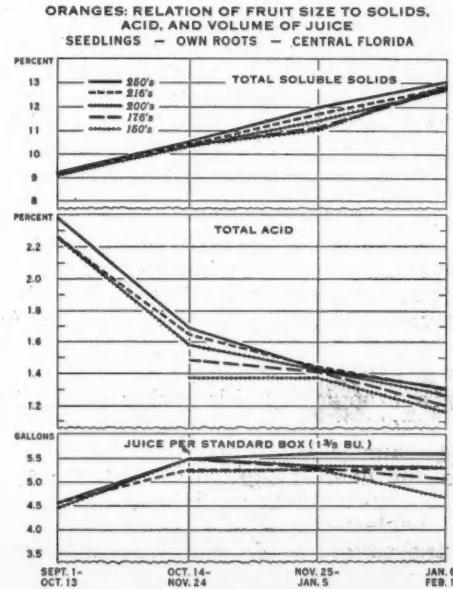
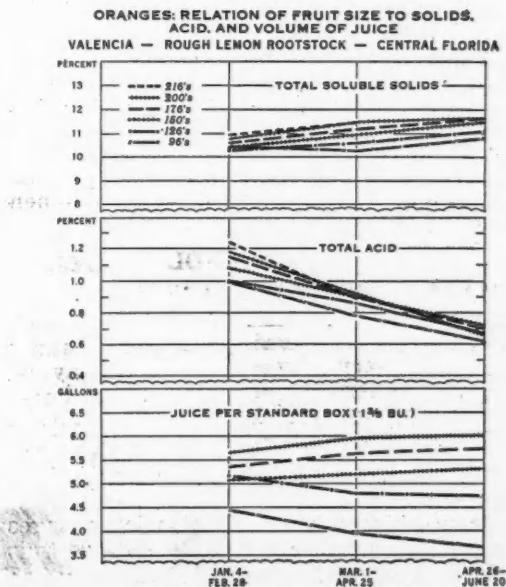


Figure 6



# The Citrus Industry

with which is merged The Citrus Leaf  
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## FLORIDA STATE HORTICULTURAL SOCIETY

Florida citrus growers are looking forward with interest to the approaching meeting of the Florida State Horticultural Society, the Fifty-fifth Annual Meeting of which organization will be held at West Palm Beach on April 21, 22 and 23.

During the fifty-four years since its organization, the Florida State Horticultural Society has played an important and ever growing part in the development, protection and success of the citrus industry in this state. Its annual meetings have provided a "Round Table" for the discussion of problems confronting the industry, and in times of emergency, such as the attack of citrus canker and the invasion of the Mediterranean fruit fly, the Society has taken an active and aggressive part in the campaigns for eradication.

Elsewhere in this issue will be found a preview of the coming session of the Society. Officers, directors and members of the executive committee of the Society have made every effort to formulate a program which will be of real value to every grower in the state. Men of vast experience and recognized authority in field work, experts of state and national reputation in research work, both cultural and marketing, have been drafted for papers at the coming meeting. Assurance is given that the program will be fully up to the high standard set by the Society in former years.

It will be well worth the time and money of any citrus grower to attend this meeting, listen to the many valuable papers to be presented and to rub elbows with his fellow growers from every section of the "Citrus Belt".

Membership in the Society is worth ~~many~~ times the small fee required for enrollment.

## MARKETING CONTROL NEEDED

California orange growers recently kicked over the Federal prorate agreements and decided to let every grower go his own way. Now they are wondering how they can get back in the prorate fold — at least some of them are according to the California Citrograph which says in part:

"Orderly shipment of California oranges stopped on December 6 and to date of this writing has not been resumed. There is no re-

striction on any shipper as to the amount of fruit he moves to market, except as the weather, the ability to secure necessary harvesting help, and his willingness to take "red ink" returns dictates. And, believe us, a lot of them have been taking red ink as their reward for 'freedom of action'."

Urging that speedy action be taken to revive the effective working of a marketing agreement, the California Citrograph says:

"Growers of navel oranges have been receiving low prices. Fruit is being wastefully distributed. No one knows what the market will be tomorrow or next week and no one has confidence in it. The trade is afraid to buy and the shippers are afraid to ship. But the crop must be moved.

"The purpose of the marketing agreement and order is to stabilize the shipment of oranges so as to prevent economic waste and to bring citrus growers' returns to parity. Today, under the unregulated movement, because enough of the committee members refuse to vote for anything other than unrestricted shipments, the price is about one-half of parity, and that is a ruinous price to the grower.

"Today, extraordinary powers are being placed in the hands of government. The citrus industry does not want the government to step in and say, 'You growers have shown you cannot manage your own business. The country needs the fruit you produce. Waste must be eliminated. From now on you will do as we say'. Such is not without the realm of possibility. Wouldn't it be better to have the industry itself run the business with government doing only the policing job to keep the individual members of it within bounds?"

Which, we submit, is making a pretty good case for marketing control by the growers themselves. As the situation now stands, California growers have not been the only sufferers. With unrestricted shipments from that state flooding many markets, the growers of other states have been forced into competition with these heavy shipments with the result that prices were still further depressed.

State marketing agreements should be encouraged because they are the most easily obtained, but they are after all merely "first aid" practices. Before the grower comes fully into his own, there must be commodity agreements covering all citrus producing sections of the United States. Only thus can real orderly marketing of the rapidly increasing citrus yields be assured. That is a goal toward which the citrus growers of California, Florida, Texas and Arizona should strive if they would avoid the government control which the California Citrograph foresees.

A grove neglected this spring will not produce a profitable crop next autumn.

The aim of every grower should be to produce the finest quality possible.

A neglected, run-down grove will not pay the tax collector.

April, 1942

## HORTICULTURAL SOCIETY TO CONSIDER WAR TIME PROBLEMS

(Continued from page 5)

ing present, a substitute speaker will be provided who will be well worth hearing.

**Wednesday, April 22nd, 1942,**

9:30 A. M. The morning program will include a group of speakers on subjects related to the feeding of citrus trees, and new developments in citrus soil studies.

2:00 P. M. The afternoon session will be devoted to discussions of the spraying and dusting of citrus trees for the control of diseases and pests in 1942, the effect of thinning of Valencias upon the physical and chemical qualities of the fruit; and the food values of citrus fruit. The program will be followed by a trip to the Estates in Palm Beach and a visit to the Beach.

8:00 P. M. There will be no Banquet this year. Instead, Dr. G. Weidmann Groff, Dean of the College of Agriculture and Professor of Horticulture of Lingnan University of Canton, China will address the Society. His subject will be "China from a Horticultural Viewpoint" and his talk will be illustrated with lantern slides. Dr. and Mrs. Groff were in China during the Japanese invasion and had to leave their home and practically all of their belongings to the mercy of the invaders. Following Dr. Groff's talk, there will be a reception and entertainment.

**Thursday, April 23rd, 1942**

9:30 A. M. and 2:00 P. M. Beginning on Thursday morning and continuing through the afternoon, there will be a series of speakers who will analyze all phases of citrus production and marketing under war conditions. The speakers will include members of the Committee on Agriculture of the Florida Defense Council. These men have been making a thorough study of the different phases of the industry as they are affected by the war. Information will be given that is invaluable to the grower, and will be enlightening as to future practices and policies. These two programs will be of intense interest and it is hoped there will be a good attendance from all parts of the state. The meeting will close following the afternoon session.

### TENTATIVE PROGRAM

#### NINTH ANNUAL MEETING KROME MEMORIAL INSTITUTE

**Wednesday, April 22nd, 1942**

9:30 A. M. and 2:00 P. M.

The Ninth Annual Meeting of the Krome Memorial Institute will have a diversified program covering subtropical fruits, exclusive of citrus. The following is a list of papers that have been listed thusfar. The meetings will be held on Wednesday in morning and afternoon separately from the regular Horticultural Society Meeting. The Institute is a section of the Horticultural Society and its papers will be published in the Horticultural Society Proceedings.

## THE CITRUS INDUSTRY

A botanical study of the plants related to citrus, with notes on their possible uses. — Dr. W. T. Swingle, United States Department of Agriculture, Washington, D. C.

(Title not announced) — Dr. David Fairchild, Coconut Grove, Florida.

Tropical fruits in the region of Lake Okeechobee.—Mr. H. L. Speer, Pahokee, Florida.

Possibilities for rubber culture in Florida. — Mr. H. F. Loomis, U. S. D. A., Plant Introduction Garden, Coconut Grove, Florida.

Blossom bud differentiation in the Avocado. — Dr. P. C. Reece, U. S. D. A., Subtropical Fruit Field Station, Orlando, Florida.

Investigations of the unfruitfulness of the Haden Mango. — Dr. T. W. Young, Citrus Experiment Station, Lake Alfred, Florida.

Khaya, a Rhodesian mahogany, as a forest tree for South Florida. — Mrs. S. J. Lynch, Subtropical Experiment Station, Homestead, Florida.

Vitamin C content of Florida oranges — Dr. Guy C. Waddington, Rollins College, Winter Park, Florida.

At the close of the afternoon session it is planned to make a tour of estates and gardens to see tropical fruit growing in and around Palm Beach.

### FOURTH ANNUAL MEETING VEGETABLE SECTION

**Thursday, April 23rd, 1942**

The Vegetable Section is a part of the Horticultural Society but holds separate meetings. Its papers are printed in the Horticultural Society proceedings. The following is the preliminary program of the Section as prepared by R. A. Carlton of West Palm Beach, the Vice President and Chairman. Its meeting will be held on Thursday, April 23rd, in the morning and afternoon. It is expected to arrange a trip to the Everglades and other vegetable sections. Announcement of plans for this will be made later.

### TENTATIVE PROGRAM VEGETABLE SECTION

**Morning Session April 23rd - 9 A. M.**

1. Developments in Tomato Production in Florida.

(a) Variety studies in the Homestead area — by Dr. E. M. Anderson, Homestead, Fla.

(b) New Wilt Resistant Varieties of Tomatoes — by David A. Kelbert, Bradenton, Fla.

(c) Occurrence and Control of Zinc Deficiency in Tomatoes in the Manatee Area — by Dr. J. R. Beckenbach, Bradenton, Fla.

Discussion — Myron M. Varn, Ft. Pierce, Fla., Dr. Geo. D. Reuhle, Homestead, Fla.

(d) Prevalence and Control of Bacterial Spot in Tomatoes — by Dr. Geo. D. Reuhle, Homestead, Fla.

Discussion — Dr. G. R. Townsend, Belle Glade, Fla.

(e) Use of Starter Solutions in Transplanting Tomatoes — G. S. Fletcher, Indiantown, Fla.

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Nine

2. Efficient Use of Fertilizers for Vegetables — by Dr. F. S. Jamison, Gainesville, Fla.

Discussion — M. U. Mounts, West Palm Beach, Fla.

**Afternoon Session April 23rd**

**2:00 P. M.**

1. Problems and Limitations of Iceberg Lettuce Production on Everglades Muck — by John Tiedtke, Clewiston, Fla.

2. Florida Climatic Factors in Iceberg Lettuce Production — Discussion —

R. S. Dowell, Plant City, Fla.  
F. S. Jamison, Gainesville, Fla.  
R. W. Ruprecht, Sanford, Fla.  
F. M. Connor, Bradenton, Fla.  
Dr. E. M. Anderson, Homestead, Fla.

3. Effects of Different Water Tables on Yields of Vegetable Crops — Everglades Area, by Dr. J. R. Neller, Belle Glade, Fla.

4. Business Session.

5. New Varieties of Vegetables for Florida:

- Smith's Perfect Cantaloupe by R. S. Dowell, Plant City, Fla.
- Blight Resistant World Beater Pepper, by G. B. Hogan, Pompano, Fla.
- Green Pascal Celery, by H. L. Haney, Belle Glade, Florida.
- General discussion of varieties and strains by group.

### SEVENTEENTH ANNUAL FLORIDA STATE ROSE SHOW

Due to war conditions, it has been decided to dispense with the Rose Show during this year. As a substitute, the Garden Clubs of the Palm Beaches have agreed to decorate the headquarters and meeting places.

### SEVENTEENTH ANNUAL MEETING

#### FLORIDA ROSE SOCIETY

The program for the meeting of the Florida Rose Society has not yet been submitted. Its meeting will be held on Wednesday, April 22nd, at 2:00 P. M.

### GENERAL

The headquarters and place of  
(Continued on page 12)



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The defeat of the treacherous Axis powers is as much the listed in Uncle Sam's forces on land, on the sea and in the

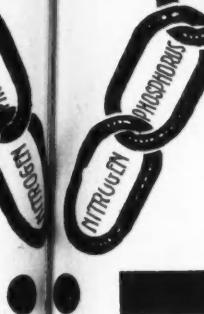
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## Food For Victory Defense Bond Contest

Every boy and girl between the ages of 10 and 21 years living on farms for which 1942 Farm Defense Plan Sheets have been executed are offered an opportunity to participate in a contest with \$600 worth of Defense Bonds going to make up the 67 individual prizes.

Determination of the winners will be based upon written reports of what each contestant has done towards achieving production goals for his or her home farm. The reports must not exceed 750 words and must be in the hands of the County Agent, Home Demonstration Agent or Vocational Agricultural Teacher on or before November 1, 1942.

In each county competent judges will select the best 5 percent of the reports submitted and these when assembled from all the counties will be judged by a committee appointed by the Florida U. S. D. A. War Board.

Awards will be based upon increases in general field crops, increase in production of meat crops, dairy products, etc., and upon the Victory Garden Program.

The campaign is sponsored by and the prizes awarded by the Chilean Nitrate Educational Bureau as a part of their intensive "Food For Victory" campaign now being conducted throughout the United States.

## Growers' Own Page

This department is devoted to the growers, for their use in giving expression to their views and a discussion of growers' problems. Any grower is welcome to make use of this department for the discussion of topics of interest. The only requirements are that the articles must be on some subject of general interest, must be reasonably short and must be free from personalities. The editor assumes no responsibility for views expressed, nor does publication imply endorsement of the conclusions presented.

Crescent City, Florida  
March 14, 1942  
Editor of the Citrus Industry,  
Bartow, Florida,  
Dear Editor:-

With reference to your note prefixing Mr. Chandler's letter in the March issue of the Citrus Industry, I wish to say:

The controversy on this subject is not closed for my part and will not be until the evils of the citrus industry are eliminated. The "charges" as Mr. Chandler calls them are not withdrawn and will not be; their proof has already been established, and they stand as apocryphal facts.

Thanking you for the courtesy of printing this letter in your next issue, I remain

Very truly yours,  
L. P. DeWOLF

## Mules Still Used By U. S. Army

Atlanta, March 30 — Genius has devised and built many models of mechanical transportation to hustle fighting equipment and personnel at highly stepped-up speed, but the mule still plods along his flop-eared way — in the Army.

That fact is revealed in a report released today by the office of Colonel James R. Alfonse, Fourth Corps Area Quartermaster showing that mules — and horses — are helping carry on the work that is steadily piling up a mess of trouble for Hitler and the slant-eyed boys who like to wield a knife in the dark. And these animals are doing work that can't be done by any power-driven machine that has yet been built.

Some of the tasks the Army mule performs are menial, but where the "hard tails" really carry the ball is lending a hand — or rather a back and four sturdy, sure-footed legs — in getting light artillery equipment over mountainous country where even a "jeep" can't go. When the going gets too steep and rough for the gun carriages, caissons and ammunition carts, the guns are dismantled, strapped to the mules' backs and the batteries move right on into position.

Horses are still used in some artillery outfits and that dashing, colorful, quick and hard striking service branch, the cavalry, is by no means extinct.

But with the cavalry, the long, grueling marches are taboo. And the horses get a break. They ride. With men and mounts fully accoutered, fast trucks furnished by the Quartermaster Corps speed them to the spot where they are most needed. Once there, men and horses are fresh. They are able to form quickly and, in the parlance of the fighting man, "get at the enemy."

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In case of a disastrous freeze you can, if necessary, cash the bonds in and use the funds to restore the grove. If, as we hope, you don't need them for that purpose they will come in mighty handy ten years from now when fruit prices may not be so good and when the bonds will be worth a third more than they cost you today.

(Then having the habit, go right on buying bonds and thus help your government win this war.)

## HORTICULTURAL SOCIETY TO CONSIDER WAR TIME PROBLEMS

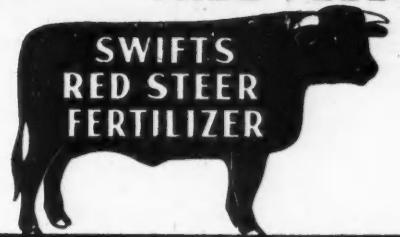
(Continued from page 9) meetings are to be in the George Washington Hotel at West Palm Beach. Other hotels nearby are offering summer rates for rooms so that those in attendance can obtain accommodations to suit without difficulty. Complete programs of all meetings will be issued just previous to the meeting and can be had by writing to Bayard F. Floyd, Secretary, at Davenport, Florida. Members and prospective members who are unable to attend should send their membership fee of \$2.00 to Frank L. Holland, Treasurer, at Winter Haven, Florida, to get the complete Proceedings of the meeting.

Before using new plows that have been varnished or painted by the manufacturer to protect shiny metal parts, it's a good idea to apply a concentrated lye solution (one can of lye dissolved in several quarts of water) to the surfaces and then scrape off the paint with a putty knife. The plow will scour better if this coating is removed. Moldboard, share, and other rubbing parts should be polished to promote good scouring.

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# Swift Program

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**RELATION OF SIZE OF FRUIT TO SOLIDS, ACID, AND VOLUME OF JUICE IN THE PRINCIPAL VARIETIES OF FLORIDA IDA ORANGES**

(Continued from page 7)

solids than did the fruit of the Hamlin and Pineapple varieties. However, even these varieties attained fairly high solids when picking was delayed until December.

**Total Acidity**

A decrease in the percentage of total acid may be noted with the development and ripening of the fruits of all the varieties. Usually a wide divergence in acidity existed between fruits of different sizes, the smaller fruit having the greater acid content.

Rootstocks influenced the acidity of Parson Brown and Valencia. Fruit from trees grown on rough lemon contained less acid than fruit from those grown on sour orange rootstock. For comparisons see figures 1 and 2, and figures 6 and 7.

Of the many varieties tested, seedling oranges were most acid. The high-acid and high-solids content account for superior quality of fruit whether influenced by variety, as in the case of Seedlings, or by rootstock, such as sour orange.

An interesting point brought out in this study of seedlings and Parson Brown oranges grown on sour orange rootstock is the close correlation among the fruits of the various sizes in solids and acid. (See figures 5 and 2). With the other varieties greater differences existed among the regression lines, and these differences were most pronounced late in the season with ripe fruit.

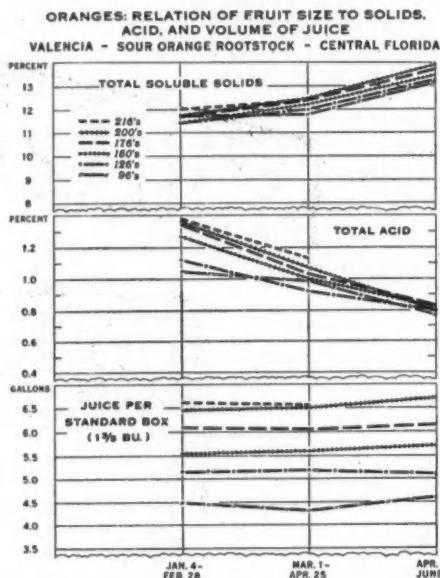
**Volume of Juice**

Usually most varieties of oranges had their highest juice content when they were in prime eating condition. There was less juice when the fruit was less mature, and also late in the season when granulation was in evidence in secescent fruit. Pineapple and Valencia oranges were exceptions, maintaining throughout their season an almost uniform volume or a slight increase in volume of juice with the ripening of the fruit.

The size of the fruit influenced the amount of juice obtained. Figures 1 to 7 show that when the volume of juice was calculated as gallons per standard box (1 3/5 bushels), the larger sized fruits of sizes 96's and 126's contained much less juice than small sizes such as 250's, 216's, 200's, 176's, and 150's. The data also showed that in a few instances fruits of the sizes 96's and 126's contained less than 4 1/2 gal-

lons per standard box, while sizes 250's, 216's, 200's, and 176's usually exceeded 5 gallons, and in the case of Valencia (figure 7) sizes packed and shipped in any great quantity. When they are packed they are usually moved before excessive "drying out" occurs and therefore

Figure 7



200's and 216's exceeded 6 1/2 gallons per standard box. Unless prices are satisfactory, the large-sized fruits, such as 96's and 126's, are seldom

encounter little trouble in passing the juice requirement.

From the data presented in figures 1 to 7 it may be noted that with

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It gives maximum efficiency at low cost.  
It does not cause abnormal scale infestations.  
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COPOFILM is naturally fine. (It is not a ground product.) Its 1200 per inch particle size and its 34% metallic copper content are properly balanced to each other. This makes the material go farther and give better scab and melanose control . . . The Florida citrus industry has recognized COPOFILM as the one outstanding copper fungicide.

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Tampa Florida

For Valuable Premiums Save the Coupons Packed in Copofilm

the exception of the very large fruits most sizes and varieties of Florida oranges encountered little difficulty in passing a requirement of 5 gallons of juice per standard box of 1 3-5 bushels.

#### Summary

1. The results reported herein show how the size of fruit affects total solids, total acidity, and the volume of juice at different times prior to and throughout the harvesting period for the principal varieties of Florida oranges.

2. The findings are based on a systematic study during three seasons, involving more than 13,000 individual fruits.

3. The results are averages obtained from individual fruit measurements and individual fruit analyses. The data have been grouped according to arbitrary periods to show the seasonal behavior of the various constituents in different sized fruits.

4. The results are consistent and indicate that with the ripening of the fruit there is an increase in total solids and volume of juice and a decrease in acidity for all of the standard sizes, i. e., for pack 250's, 216's, 200's, 176's, 126's, and 96's.

Throughout the various stages of ripening, the smaller sized fruits contained the most solids and acid and, on the basis of a standard packed box (1 3-5 bu.), a greater volume of juice.

6. Differences in solids, acidity, and volume of juice for different sized fruits of the same variety were most pronounced late in the season.

#### Just Like Money...

According to the Florida Citrus Commission, there is something new under the citrus sun, the "Citrus Matinee" conducted by the St. Petersburg Junior Chamber of Commerce with the cooperation of the Roxy theatre of that city — still another way of boosting Florida's great citrus industry.

The admission price for the "Citrus Matinee" is one orange, grapefruit, or any other citrus fruit, for each year of age the youngster has attained. For example, if a child is nine years old, nine oranges, grapefruit, etc., will admit him or her to the special show.

The first "Citrus Matinee" was a huge success — a western thriller and the "admission price" was distributed among St. Petersburg's needy families.

## Velencia Quality

### ....Best In Years

Florida's finest Valencia orange crop in years is now reaching the markets in increasing volume. Tom B. Swann, Chairman of the Florida Citrus Commission states that "never in Florida's history has the Valencia deal held greater promise of enthusiastic acceptance. The fruit is running heavy to the better sizes, and the exceptionally good internal quality of the fruit makes for superb eating quality."

Florida Valencias have very good natural color, and are testing high in juice content and solids, with enough acid for a well-balanced ratio. Nature was particularly kind to the crop this season, supplying generous rainfall and weather precisely cool enough to impart to the fruit all the goodness for which it is famous. The new crop meets every qualification for consumer appeal, in size, appearance and quality.

According to George E. Copeland, Director of the Florida Citrus Inspection Bureau, of sixty samples of

Valencias gathered from all producing areas within the State, tested between February 23 and March 7, only one sample failed to meet the rigid Florida maturity standards. The samples tested ranged in solids from 9.6% in size 126's to 13.45% in size 288's.

Endowed with a flavor all their own, over the years Florida Valencias have earned the well-deserved acceptance of a discriminating public. This year will be no exception, for those who grow the fruit are saying, "they're the finest we've ever seen."

Madison County Commissioners recently bought five extra capacity pressure canners and two tin can sealers to be used in group canning meetings, according to Miss Bennie F. Wilder, home agent. The commissioners bought the equipment to encourage increased food production and canning.

## YOUR GROVE CAN HELP WIN THE WAR!

Your country expects you to maintain the PRODUCTIVE HEALTH of your grove—because citrus is an important food. Users of GULF Brands of Friendly Fertilizers, looking ahead to future crops, know they are doing just that by applying the right plant foods in the right amounts at the right time. Your GULF Field Man in your section will give you complete facts.



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**GULF** *Brands of*  
**FERTILIZER**

The Gulf Fertilizer Company

Tampa and Port Everglades, Florida



# The LYONIZER

Department

COMPILED BY THE LYONS FERTILIZER CO.

## Reports of Lyons Field Men . . .

### SOUTHWEST FLORIDA F. W. (Felton) Scott

Citrus growers in this section have moved a large percentage of the mid-season oranges and some Valencias are now being shipped. A considerable portion of the grapefruit has also been moved. Vegetable growers have experienced some very adverse weather conditions during the past month with heavy rains and winds doing considerable damage to the young spring crop. As a result the picking dates on all commodities will be somewhat later than usual.

### POLK COUNTY J. M. (Jim) Sample

Trees bloomed rather late this spring all over this territory due to continued cool weather during February and early March. Grapefruit for the most part put out bloom with and largely on the new growth. The orange and tangerine bloom seems a little heavier than last year. Rainfall has been plentiful and a good crop can be anticipated. Most growers are planning to use a copper-zinc-wettable sulphur spray and these will be applied two to three weeks after the petal fall. Valencias have been moving to market from this section in heavy shipments.

### NORTH CENTRAL FLORIDA V. E. Bourland

We have had some unusual weather in this section during March. The rains have been heavy and while beneficial to most citrus groves there has been damage to the vegetable crops. The heavy winds also caused damage to truck crops. Along with the rains we had some very fine days for growing crops, and taking all into consideration the crops are in good shape. However the maturity of these crops will be later than usual. Hail storms during the middle of March caused some damage in Lake County to both citrus and vegetables. Citrus trees are putting on a very nice bloom and a splendid spring growth.

### SOUTHWEST POLK COUNTY M. L. (Marvin) Sherertz

This section has had some very hard rains during March and

there has been some damage to vegetable crops. Prices on most of the truck crops are holding up very good and the prices being paid for citrus in this section are better than in some years past. Valencias are being moved at a fast rate from this vicinity. Citrus trees are putting on a nice growth and bloom and most growers are planning to come in this summer with a well balanced fertilizer and will probably start this application a little earlier than is usually the case.

### HILLSBOROUGH AND PIN- ELLAS COUNTIES C. S. (Charlie) Little

Our long awaited spring seems to have arrived and with the plentiful rains that we have had this spring trees are finally coming out with a nice flush of growth and plenty of bloom. This bloom is much later than usual this spring because of the prolonged cold weather. We are having some trouble in this section with Valencia oranges getting large and coarse. Most of the mid-season fruit has been moved from this territory.

### WEST CENTRAL FLORIDA E. A. (Mac) McCartney

The heavy rains and strong winds of March played havoc with vegetable crops in this territory and many crops of beans, peppers and tomatoes will have to be replanted. The strawberry crop in the Plant City section has been severely damaged, and while the price is good the yield is very low and as a result many crops will show a loss for the season. Valencias are being moved from this territory at prices better than experienced in several years. Practically all of the mid-season fruit has been moved. Citrus trees are in splendid shape and the new growth is making a fine appearance. Bloom is also good and we should set a fine crop of fruit.

### LAKE SECTION

Frost did damage during the past month to spring crops in the Lake Okeechobee section but crops were replanted immediately and while there will be some delay in maturity conditions at this time look encouraging.

## Horticultural Hints

If you will read the reports on this page that have come from our men from all sections of the state you will see that the prospects are very bright for a good crop of fruit on all varieties this coming season. Weather conditions have been most favorable during the past few months and it does appear that we will have a good normal set of fruit.

If we are to mature this crop into real quality that will bring premium prices during the fall and next spring then there are essential production methods that must be followed. In the first place, plans should be made immediately to get the spray machine ready for operation. It is advisable in most cases to give the trees a good copper spray several weeks after the bloom petals have fallen. In many cases nutritional materials such as zinc should be added to this spray. If you will call the nearest Lyons Field Man you will find him thoroughly capable of advising with you regarding the proper materials to use and the most effective strength for application in your individual case.

We have an ample amount of moisture in the soil at this time but in case it should begin to get dry in your territory you will find that frequent cultivation will go a long way in conserving moisture.

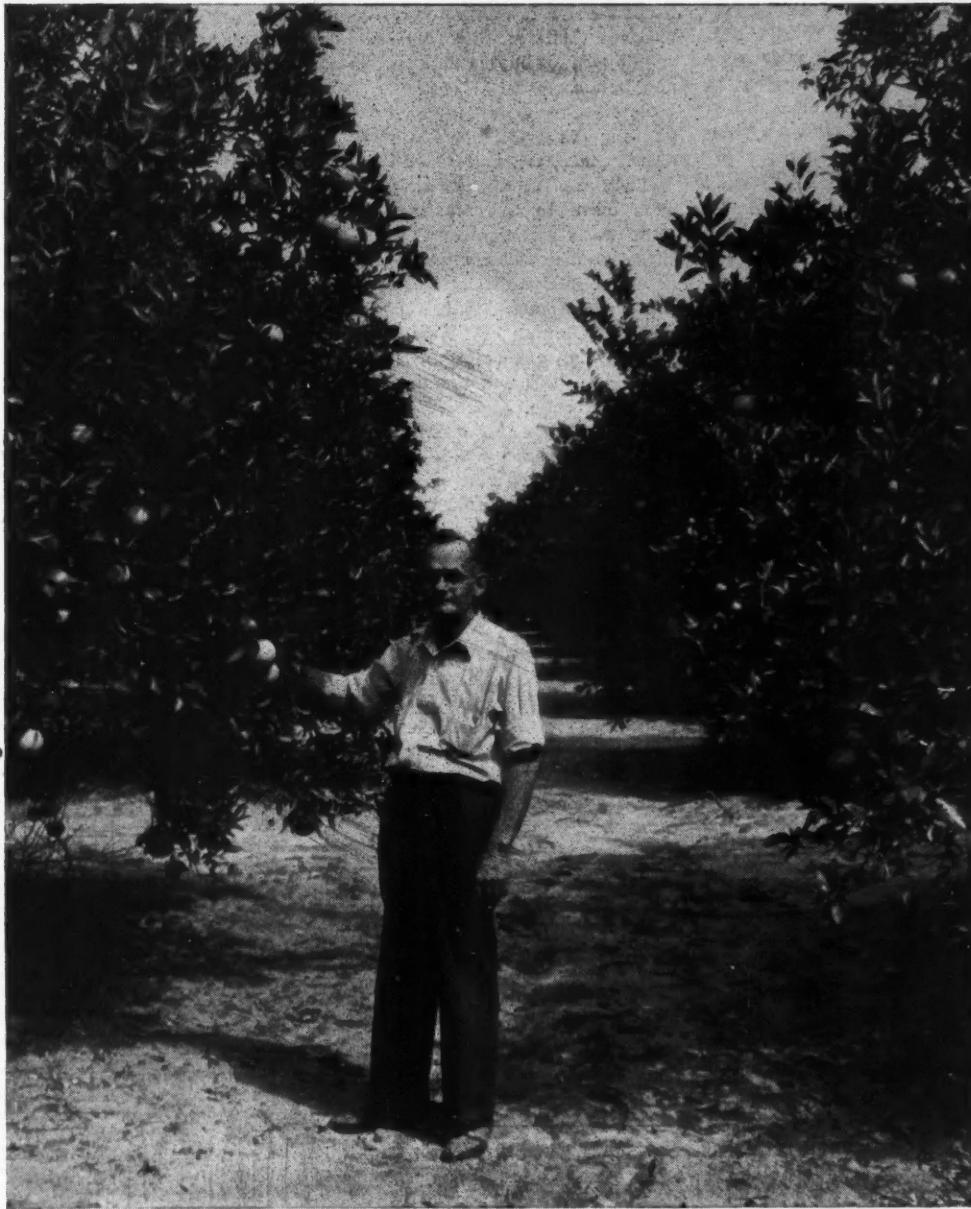
If you have the labor immediately available this is a very fine time to remove all dead wood from your trees, and accomplish a great deal in the control of melanoze.

We would also like to suggest that you keep a close check on rust mite where you are planning to hold your Valencia crop.

April is the beginning of the summer fertilizer period. In this connection we want you to call on the LYONS Man and work out a program of fertilization that will be best suited for your particular needs. LYONS FERTILIZER will give results, and the picture on the next page is ample proof, for the H. C. Connor Estate would not have been using our goods for the past 18 years unless they were getting better than the average quality and quantity.

ADVERTISEMENT—LYONS FERTILIZER COMPANY

## Loy Conner Raises Highest Quality Fruit With Lyons' Fertilizer For 18 Consecutive Years...



F. Loy Conner, manager of H. C. Conner Estate, Bartow, is shown above in one of the estate's fine orange groves. Considered one of the finest citrus properties in Florida, this estate consists of over 300 acres of citrus. For many years fruit from these groves, under the 4-C brand, has been and continues to be one of the outstanding brands on northern markets.

Incidentally, the first full application of citrus fertilizer shipped out by Lyons Fertilizer Company after it was organized in 1924 was sent to the Conner groves. They have used LYONS FERTILIZERS continuously since that date — for nearly 18 consecutive years — and Mr. Conner tells us that because of that fact, he has continuously produced larger quantities of high quality fruit.

## McDowell Named Research Manager

Following the recommendations of the Research Advisory Committee, a sub-committee of the Florida Citrus Commission, composed of C. Walton Rex, Orlando, chairman; A. S. Herlong, Sr., Leesburg and Jeff Flake, Wauchula, who had been previously empowered by the Commission to act, have engaged the services of Dr. Louis G. MacDowell as research manager, at a salary of \$4800 per year.

A native of Melbourne, Florida, Dr. MacDowell received his B. S. and Ph. D., degrees from the University of Florida, and for the past five and one-half years has been conducting intensive research in the field of organic chemistry for the Carbide and Carbon Chemicals Corp., at Charleston, W. Va.

Quite active in campus circles, Dr. MacDowell, while at the University of Florida, was a member of the Pi Kappa Phi, honorary scholastic fraternity, Gamma Sigma Epsilon and



### Mt. Dora Growers Protect Citrus Groves with Iron Age

Florida's Mt. Dora Growers Cooperative makes 900 acres of citrus groves pay . . . and sprays the Iron Age way. Ten months every year the Cooperative relies on the dependability of an Iron Age power take-off sprayer, with 35-40 gallon Victory pump . . . and manager G. B. Hulbert says they are more than satisfied with the results.

Choose from 7 sizes of the high pressure Victory pump — with capacities from 6 to 40 G.P.M., pressures 500 to 1000 lbs. P.S.I. Write for 1942 sprayer catalog.

**A. B. FARQUHAR CO., Limited**  
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Distributor: W. G. Wells, Citrus Service and Supply, Tavares, Florida

**Make Your Crops Pay  
Spray the IRON AGE Way**

## Thrift For Defense

By Virginia P. Moore  
Home Improvement Specialist

Florida women and girls have practiced thrift in times of need. Now we have a new incentive to practice thrift for Uncle Sam's need. We can practice thrift and save those dimes and dollars for buying defense stamps and bonds.

By keeping up the little ends that go to making the home a cheerful, bright place, the morale of the family will be strengthened. Nothing adds more to a room than bright clean walls and woodwork. Dust and smoke can be removed from papered or calsoined walls by a home-made wall-cleaner made with the following ingredients: 1½ cups flour, ½ cup warm water, 2 tblsp. salt, 2 tblsp. vinegar, 2 tblsp. ammonia, and 1 tblsp. kerosene.

And here are the directions: Combine all ingredients and cook in a double boiler. Stir as long as possible. Then cut and fold until all raw flour appears to be cooked. Be sure the product is stiff, not sticky. Remove the mass from the kettle and knead in the hands for a few moments until it appears elastic. Place in a covered can until cooled.

This is to be used as any cleaning dough. Clean a strip of surface at a time, working from the top downward without pressure on the dough and finish the strip with the arm in action instead of stopping abruptly. Slightly overlap each strip. Fold the dough over as it becomes soiled. If the dough becomes too dry during the process of cleaning, work a few drops of water in by folding and kneading, but make sure this is uniformly blended, as a moist spot will mar the wall surface. The dough still cleans well after it has become black with wall soil.

To absorb a small grease spot, coat it with talcum powder or pow-

Sigma Xi, honorary chemical and scientific societies, and a member of the Phi Kappa Tau social fraternity.

Dr. MacDowell's duties will consist of coordinating all research activities of the Florida Citrus Commission, with emphasis being placed on new uses for citrus and the development of commercially practicable by-products.

The new research manager will report for duty on May 1st.

dered chalk. Allow the powder to remain for a few hours. Then brush off. Fuller's earth, mixed to a stiff paste with ammonia, will take with it grease from quite a prominent spot when applied to the spot and then brushed off after it has dried.

## CLASSIFIED

### Advertisements

The rate for advertisements of this nature is only five cents per word for each insertion. You may count the number of words you have, multiply it by five, and you will have the cost of the advertisement for one insertion. Multiply this by the total number of insertions desired and you will have the total cost. This rate is so low that we cannot charge classified accounts, and would, therefore, appreciate a remittance with order. No advertisement accepted for less than 50 cents.

**CITRUS TREES** — Fine quality Pineapples, Jaffas, Hamlin's, Valencia, Marsh Grapefruit. 1 to 2 inch size sour stock. Prices reasonable. Robt. P. Thornton, % Clayhill Nursery, Box 2880, Tampa, Florida.

**RUBY GRAPEFRUIT**, Patented Red Blush Seedless, high quality prolific. Exclusive Licensed propagators of Florida. Also all standard varieties of citrus on Cleopatra and Sour. Lining out stock sour orange and sweet seedlings. Grand Island Nurseries, Eustis, Florida.

**PLACE ORDER NOW** Fall Delivery Citrus Trees. All Varieties. Paramount Grove Service, Box 843, Lakeland, Fla. 10-61

**LAKE GARFIELD NURSERIES COMPANY**  
**BARTOW, FLORIDA**  
**ALL STANDARD VARIETIES CITRUS TREES—SPECIAL PRICES NOW IN EFFECT**

**NICHOLSON'S EARLY ORANGE**—This outstanding orange of high juice content and rich and very delicious flavor during earliest maturity SHOULD and WILL bring high premiums. \$3.00 to \$7.00 per box can be realized if properly handled. Royal Purple Citrus Research Nursery, Orlando, Florida.

**SUPERIOR CITRUS TREES** of principal varieties. Also Temples, Persian limes and avocado trees and new varieties of tangelos. Write for prices. Ward's Nursery, Avon Park, Florida.

**ALYCE CLOVER SEED**. Ripe and cleaned. Ideal cover and hay crop. Write for information. P. E. Snyder, Box 866, Lakeland, Fla.

## Rust Mites On Citrus

BY J. R. WATSON  
Entomologist, Florida Experiment Station

June is the critical month for rust mites on oranges. As the rainy season comes on a fungus disease gradually builds up, which usually controls the rust mites during the rainy part of the year, but naturally it is sometime after the rainy season begins before this fungus can build up sufficiently to control rust mites. Hence June and early July is the time when rust mites must be watched especially. However, there is no time when the growers are absolutely safe from this pest. The cessation of the rain for a few days is apt to bring up an infestation even during the rainy season.

Warm dry weather is very favorable for the development of rust mites and they multiply very rapidly. Each female lays on the average of about 500 eggs and she may become mature in as short a time as seven days, i. e., she may begin to lay eggs when she is a week old, although usually the time is ten to twelve days. It is this rapid breeding which enables rust mites to appear in large numbers so quickly when weather conditions are favorable. Rust mites appear first on the leaves and twigs, and only when the young fruit begins to approach an inch in diameter do they migrate to it. As to just how much injury they may do to the twigs and leaves, we have no very definite information, but the injury to the fruit and to the pocketbook of the grower is only too well known.

The work of Mr. Thompson of our Lake Alfred Station has shown that rust mites attack the young fruit earlier than we had previously supposed and this early type of rust mite injury has a different appearance than that characteristic of their work on somewhat larger fruit. Instead of an even, smooth discoloration the rind shows a mottling effect as the thin epidermis breaks up into small, rough crescent-shaped specks.

The control measure is sulfur in some form. If there are no other pests present, the large growers at least like to dust their groves with sulfur, finely ground sulfur, the finer the better. It is a common practice to add about five percent of lime to make the dust go through the dusting machine better. If not followed by rain inside of three days this is usually effective, but the eggs are

not killed by the dust and if the sulfur is washed off by a heavy rain inside of three days, rust mites hatching out after the rain will largely escape, necessitating another dusting later. Dusting, however, is much cheaper than spraying but because it is sometimes not as effective and because of the possibility of getting fair control of scale insects and

whiteflies at the same time, many growers prefer to spray for rust mites.

Lime-sulfur is the standard spray. During the last three years the practice has become general of adding wettable sulfur to the lime-sulfur. This enables one to cut down the concentration of lime-sulfur, making a safer spray and at the same time one fully as effective. Lime-sulfur can be used as dilute as 1 to 70 of water if from 5 to 10 pounds of wettable sulfur is added to each 100 gallons.

The economical method of fighting rust mites is to provide one's self

(Continued on page 14)

## Quadruple Value With...

# BROGDEX

REDUCES DECAY  
RETARDS SHRINKAGE

The Brogdex Process not only provides a

**Better Wilt Control**  
but it also makes possible a

**Better Polish**  
one that has longer life and

**Improves Your Grade**  
gives you more number ones and more combination grade

**Decay Control**  
reduces refrigeration costs

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Some other processes may give you one and some the other, but . . .

# BROGDEX

GIVES YOU ALL FOUR

## B. C. SKINNER, Distributor

THE BROGDEX SYSTEM

Coloring Room Process

Color Added Process

DUNEDIN, FLORIDA

# "Uncle Jeff" Reminisces

Founding fathers foregathered fifty-four years ago this afternoon, (April 10th, 1888) in Ocala to form the Florida State Horticultural Society. Germany had entered the Triple Alliance with Austria and Italy only a few months before, against France and Russia. In Braunau, Austria, two newly-wedded young people named Shicklegruber were struggling along and less than a year later would become the parents of a son who was christened Adolph and is now known at Hitler. China had not yet recovered from the preceding year's destructive flood in the Hoang-Ho River, which took nine hundred thousand lives. Resisting all attempts at its overthrow made previously, the Manchu dynasty ruled the Chinese with the iron hand and the mailed fist, headed by the mysterious "Dragon Empress."

Japan was even then engaged on the preliminary steps in her long preparations for conquest that would express the ambition to become the dominating nation of the Pacific and Asian domains. Queen Victoria was

serving her fifty-first year on Britain's throne at sixty-eight and speculation spread far and wide concerning whether she would live to celebrate her Diamond Jubilee. Rudyard Kipling was soon to write the ribald rhyme respecting her entitled the "Widow of Windsor," which kept him from becoming poet laureate but left the way open for his great masterpiece, "The Recessional." France was already preparing for the World's Fair she held in Paris the second summer following, during which the Eiffel Tower had its opening ceremonies, looming to the tremendous height of nine hundred and eighty-five feet.

Grover Cleveland was rounding out his first term as United States president and getting set for a second term campaign which Henry Watterson accurately forecast would march "through a slaughterhouse into an open grave." Congress was debating whether it should expand the Agricultural Department from a Patent Office subsidiary into cabinet rank. Ohio farmers paid taxes freely but

JEFFERSON THOMAS,  
COMMENTATOR "FLORIDA  
FARM HOUR"

benefitted little from their state government since Buckeye politics was mostly controlled from the infamous Bucket of Blood saloon located "Over the Rhine" in Cincinnati which Geo. E. Cox owned. Kentucky doctors had just told a mountain foothills lad that he must never again ride horseback or follow a bull-tongue plow, thus driving him into newspaper work from the farming life that he preferred, and eventually giving Florida Farm Hour listeners ten-minute rains-in-the-neck every week-day shortly after noon. Plans were speedily taking form for the opening to settlement of the area now comprising Oklahoma and some among the fifty thousand people who finally entered in one day had even then started on the long trek toward the setting sun.

Nature had been in angry mood on frequent occasions during the months that immediately preceded that Florida State Horticultural Society organization meeting in Ocala. Less than thirty days previous New

(Continued on page 12)

## Let The Groves Tell Their Story Of Fertilizer Effectiveness!



Inspect any grove  
following the Swift  
Program....

Groves that are properly fed and properly cared for can stand up where others fail. A grove in good condition has reserve strength.

Watch the Swift groves during this period of emergency. They will come through in good shape.

**Swift & Company  
FERTILIZER WORKS  
Bartow, Florida**

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